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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
EDELMAN, BRADLEY E	
ART UNIT	**PAPER NUMBER**
2153	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/766,649	FERGUSON ET AL.	
	Examiner	Art Unit	
	Bradley Edelman	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is in response to Applicant's request for reconsideration and amendment filed on February 18, 2005. Claims 1-22 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1-7 and 9-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Notably, these claims merely recite a "configuration data model". This is not a process, machine, manufacture, or composition of matter. Rather, it is merely an abstract idea. It requires no physical or technological steps and can take place entirely as a diagram written on a piece of paper or even a thought process inside someone's head. Therefore, these claims are rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galis et al. (U.S. Patent No. 5,175,800, hereinafter "Galis"), in view of Bruck et al. (U.S. Patent No. 6,801,949, hereinafter "Bruck").

Note that the claimed invention essentially claims a system for modeling various components of a computer to create an overall configuration model of the network. It includes software and hardware elements, devices, virtual IP addresses, and device role IP host information, in addition to other information (see dependent claims). Each of these types of information is referred to as "entities" in the claim language. Applicant's specification describes that the model is beneficial to avoid the significant amounts of time necessary to manually, individually configure each component of a network, and to further avoid errors and duplicate formation of configuration parameters when configuring network components (p. 3).

With this in mind, it is necessary to draw attention to the Galis patent. Galis discloses the exact same concept of the claimed invention – i.e. modeling an entire network, including hardware, software, connectivity, etc. (see Galis, col. 5, lines 44-48, "means for a total communications network configuration. The present invention enables a human user to define and maintain a communications network configuration database with means to transfer the communications network configuration data to a communications network", for the purpose of "producing more consistent, reliable, and reproducible" configuration of network components (p. 5, lines 58-61). Thus, the only differences between the claimed invention and the Galis patent are the specific types of entities being modeled. Nonetheless, the specific entities modeled in the claimed

invention, while not all disclosed by Galis, are all well-known network components. It would have been obvious to include in the Galis system all known network components at the time the present application was filed, because the purpose of the Galis patent is to "produce a complete description of the physical and logical communications network" (col. 10, lines 61-63). A more detailed description is given below.

In considering claim 1, Galis discloses a configuration data model ("configuration data base") for relating configuration objects of a computer network to other configuration objects ("which produces a complete description of the physical and logical communications network," col. 10, lines 59-63), and for expressing the configuration objects of a computer network in a form accessible by other network components (col. 46, describing the user interface that remotely accesses the network and sets the configuration model), comprising:

Device role host entities that represent software roles to be implemented on specific network device hosts (col. 48, lines 16-17, 52, describing that the computers on the network include "hosts"; col. 10, line 64 – col. 11, line 3 & Fig. 9C, describing that the software entities on each network computer – i.e. "software logical entities" – are also included in the model, such that such software resident on a host computer will necessarily represent the computer's role as a host);

Address entities that represent addresses associated with devices on a network (col. 48, lines 16-17; col. 49, line 26);

Status entities that represent the status of various software and hardware elements of a computer network (col. 11, lines 41-49, describing that the model includes the connectivity and relationships between hardware and software entities); and

Device entities that represent specific devices on a network (col. 11, lines 41-44).

However, Galis does not disclose that the network is an IP network such that the hosts are IP hosts and the addresses are virtual IP addresses. Nonetheless, configuring networks that include IP hosts and virtual IP addresses is well known, as evidenced by Bruck (see col. 14, lines 31-45, describing "virtual IP addresses" and "servers"; see also remainder of cols. 14-18). Given the teaching of Bruck that virtual IP addresses and IP hosts are well known in the art, it would have been obvious to a person having ordinary skill in the art to include the known virtual IP addresses and IP hosts in the network system taught by Galis, to "produce a complete description of the physical and logical communications network" including network entities known in 1999 in addition to those known in 1987.

In considering claim 2, Bruck further discloses that firewalls are also well known in the art (Fig. 1). Thus, it would have been obvious to include "conduit entities" – i.e. entities that provide a conduit through a network firewall – in the network configuration system taught Galis to "produce a complete description of the physical and logical communications network" including network entities known in 1999 in addition to those known in 1987.

In considering claim 3, Galis further discloses device role configuration entities that specify the configuration of various software roles to be implemented on devices connected to a network (col. 10, line 64 – col. 11, line 3 & Fig. 9C, describing that the software entities on each network computer – i.e. "software logical entities" – are also included in the model, and wherein each software entity necessarily has a role).

In considering claim 4, Galis further discloses device role configuration values that define specific types of device role configurations that may be contained by the device role configuration entities (col. 10, line 64 – col. 11, line 3 & Fig. 9C).

In considering claim 5, Galis further discloses role configurations entities that define the configuration associated with software roles of devices on a network (col. 10, line 64 – col. 11, line 3 & Fig. 9C).

In considering claim 6, Galis discloses a configuration data model for relating information regarding the configuration of various software, network, and hardware entities on a computer network, comprising:

Role configurations entities, device role configuration entities, and device role IP host entities that define the configuration of various software roles of devices and applications used on a computer network (col. 48, lines 16-17, 52, describing that the computers on the network include "hosts"; col. 10, line 64 – col. 11, line 3 & Fig. 9C, describing that the software entities on each network computer – i.e. "software logical

entities" – are also included in the model, such that such software resident on a host computer will necessarily represent the computer's role as a host); and

Address entities that relate to addresses to be used by devices connected to a network (col. 48, lines 16-17; col. 49, line 26).

However, Galis does not disclose that the addresses are virtual IP address, and also does not disclose status entities for monitoring the status of various software and hardware elements of the computer network. Nonetheless, both of these are well known, as evidenced by Bruck (as discussed previously, Bruck discloses virtual IP, col. 14, lines 31-45; Bruck also discloses that a network can include monitoring entities – see Abstract). Given the teaching of Bruck that virtual IP addresses and network monitoring are well known in the art, it would have been obvious to a person having ordinary skill in the art to include the known virtual IP addresses and network monitoring entities taught by Bruck in the network system taught by Galis, to "produce a complete description of the physical and logical communications network" including network entities known in 1999 in addition to those known in 1987.

In considering claim 7, Bruck further teaches that the virtual IPs entities relate to device entities representing specific devices connected to a network, and act as a buffer between the network and the devices represented by the device entities (this is the definition of virtual IP addresses, see Bruck, col. 8, lines 1-16).

In considering claim 8, as discussed above, the combined teaching of Galis and Bruck discloses a computer readable set of instructions residing on a computer-readable medium that produces a software data model comprising:

Device role IP host entities, virtual IPs entities, device role configuration entities, and status entities, wherein the device role IP host entities, role configuration entities, and device role configuration entities each relate to software that comprise multiple software packages to be installed on various devices connected to a network (col. 10, line 64 – col. 11, line 3 & Fig. 9C; col. 55, lines 40-60, describing the configuration process which necessarily includes installation of the software configuration packages along with all other network configuration), wherein the virtual IPs entities relate to device entities representing specific devices, and provide virtual IP addresses for the devices represented by the device entities to the various other devices using the computer network (i.e. this is the nature if virtual IP addresses – see Bruck, col. 8, lines 1-16), and wherein said status entities monitor the status of hardware devices and software applications used on the network (i.e. monitoring functions taught by Bruck).

In considering claim 9, the combined teaching of Galis and Bruck discloses a configuration data model for characterizing the configuration of all software and hardware elements connected to a network ("produce a complete description of the physical and logical communications network"; Galis, col. 10, lines 61-63)), comprising:

A plurality of device entities (Galis, "nodes");

A plurality of conduit entities (Bruck, "Firewall");

A plurality of device role IP host entities (Galis, host software; Bruck, IP hosts);

A plurality of interface IP type entities (Bruck, "Firewall");

A plurality of virtual IPs entities (Bruck, "virtual IP");

A plurality of services entities (Bruck, network monitoring services);

A plurality of role configurations entities and device role configurations entities (Galis, necessarily part of the software entities);

A plurality of status entities (Bruck, network monitoring entities);

A plurality of component type entities (Galis, "devices"); and

A plurality of device role configuration values entities (Galis, necessarily part of the software entities).

Again, it would have been obvious to include any known network entities, such as those taught by Bruck, in the Galis network configuration system, to "produce a complete description of the physical and logical communications network" including network entities known in 1999 in addition to those known in 1987.

In considering claim 10, although the system taught by Galis and Bruck discloses substantial features of the claimed invention, it remains silent regarding the manufacturing model of the network entities. Nonetheless, any network will have devices of certain manufacturing models. Thus, it would have been obvious to a person having ordinary skill in the art to include these manufacturing models as part of the extensive network model taught by Galis and Bruck, to "produce a complete description

of the physical and logical communications network" including network entities known in 1999 in addition to those known in 1987.

In considering claim 11, Galis further discloses that the plurality of configuration entities further comprises a plurality of component objects entities (col. 48, lines 39-50).

3. Claims 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galis, in view of Bruck, and further in view of Zager et al. (U.S. Patent No. 6,393,386, hereinafter "Zager").

In considering claim 12, Zager also discloses a network model for modeling certain components in a network (see Abstract). Thus, because Galis aims to "produce a complete description of the physical and logical communications network", it would have been obvious for a person having ordinary skill in the art to include any network entities disclosed in the system of Zager in the network model system taught by Galis. This said, Zager further discloses a plurality of device roles history entities ("interaction history," col. 15, lines 50-63).

In considering claim 13, Galis discloses that entities are ports ("port"), and Bruck further discloses that the entities can be a firewall ("firewall"). Zager further discloses that network entities can relate to each other in various types of ways, including many-to-one, one-to-many, one-to-one, and many-to-many (col. 29, lines 46-61, "relationship types have the following attributes... one-to-many... many-to-one"). Thus, it would have

been obvious to include all of these types of network entities in the network model taught by Galis, to "produce a complete description of the physical and logical communications network" that exists in modern computer networks.

Claims 14-22 describe that the different claimed entities relate to each other in different ways, such as many-to-one and one-to-many relationships. As discussed above, such types of connections are well known components of computer network systems, and would have been obvious to include in the Galis model, to "produce a complete description of the physical and logical communications network" that exists in modern computer networks.

Response to Arguments

4. In considering Applicant's arguments filed on February 18, 2005, Applicant's arguments with respect to the Zager and Bhaskaran references are moot in view of the new grounds for rejection.

Note, however, that Applicant's primary argument against Zager as a primary reference was that Zager had the limited purpose of creating a network model to test network performance, and not to configure a network, as Applicant believes the claims require. Thus, Applicant argues, it would not be obvious to include certain features in Zager, such as virtual IP entities, because they would serve no purpose in testing network performance. Although Examiner disagrees that the claims require configuring a network configuration (they recite no steps related to actually configuring a network),

Examiner agrees that Zager is directed to testing network performance and not configuring a network. Thus there would be little motivation to include virtual IPs entities in the Zager system.

Nonetheless, contrary to the Zager system, the newly cited Galis patent discloses *exactly* the same purpose as Applicant's invention – i.e. to model a network in order to easily configure it. Therefore, the Galis patent is now used as a baseline reference to show that Applicant's overall inventive scheme was well known as far back as 1987 (effective filing date of Galis). The only portions of Applicant's claimed network model that were either not known in 1987 or were merely not discussed in the Galis patent are the specific network entities and relationships mentioned in the claims, such as the inclusion of firewalls, virtual IP addresses, and one-to-many and many-to-one relationships among the network elements. Nonetheless, these entities and relationships were well known at the time of Applicant's filing date, as evidenced by the additional references cited in the claim rejections above. Thus, the claims remain rejected as being an obvious modification over the prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Because of the new grounds for rejection, this Office action is non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is 571-272-3953. The examiner can normally be reached from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached at 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bradley Edelman

BE
June 17, 2005